DOCUMENT RESUME

ED 364 736 CE 065 297

AUTHOR	Lewis, Morgan V.; Harrington, Lois G.
TITLE	Student Outcomes at Private, Accredited Career Schools and Colleges of Technology. An Analysis of the Effects of Selected School/College Characteristics on Student Outcomes for School Years 1990, 1991, 1992.
INSTITUTION	Ohio State Univ., Columbus. Center on Education and Training for Employment.
SPONS AGENCY	Accrediting Commission of Career Schools/Colleges of Technology, Washington, DC.
PUB DATE	Aug 93
NOTE	25p.; For a related report, see CE 065 296.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Comparative Analysis; Dropout Rate; Graduation; *Institutional Characteristics; Job Placement; *Loan Default; *Outcomes of Education; *Performance Factors; Postsecondary Education; *Private Schools; Relevance (Education); Technical Institutes; Vocational Education; *Vocational Schools

ABSTRACT

A study examined student outcomes at those schools and colleges that filed reports with the Accrediting Commission of Career Schools/Colleges of Technology during the 1990, 1991, and 1992 school years. The study focused on the following rates calculated separately for full- and part-time students: graduation, withdrawal, training-related placement, and default on Stafford loans. For each of the 3 years studied, nearly two-thirds of the full-time students leaving the accredited institutions graduated, and three-fourths of graduates found employment related to their area of study. Part-time students had lower (10-12%) graduation and training-related employment rates and higher (1-2%) withdrawal rates than full-time students did. Multiple-regression analysis of the relationships of the 4 outcomes studied to 25 measures of the schools' characteristics confirmed that the following program characteristics have consistent, statistically significant relationships with school performance: total enrollment, main branch or campus, dual accreditation, separate facilities, percentage of enrollment receiving financial aid, average program length in weeks, faculty turnover, and percentage of students classified as Ability to Benefit students. (Technical notes regarding study definitions and formulas are included.) (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 364 736

Student Outcomes at Private, Accredited Career Schools and Colleges of Technology

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

C Hunser

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
COLLEGE OF EDUCATION
THE OHIO STATE UNIVERSITY

CE 065 297

BEST COPY AVAILABLE

Student Outcomes at Private, Accredited Career Schools and Colleges of Technology

An Analysis of the Effects of Selected School/College Characteristics on Student Outcomes for School Years 1990, 1991, 1992

Prepared for

Accrediting Commission of Career Schools/Colleges of Technology

Morgan V. Lewis
Lois G. Harrington

August 1993

Center on Education and Training for Employment
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210-1090

Contents

Foreword ii

Executive Summary iii

Introduction 1

Outcomes 2

Characteristics Related to Graduation 4

Characteristics Related to Withdrawal 8

Characteristics Related to Training-Related Placement 11

Characteristics Related to Default 12

Comparisons with Similar Programs 15

Technical Notes 17

Foreword

The Center on Education and Training for Employment is pleased to submit this report to the Accrediting Commission of Career Schools/Colleges of Technology. Private postsecondary institutions play a major role in providing the training needed for an economy with an ever-increasing demand for technical skills. The Accrediting Commission is charged with ensuring that the training provided by these schools adheres to the standards it has established.

One of the methods the Commission uses to carry out its responsibilities is to require each school to submit an annual report. The information in this report enables the Commission to monitor the school's operation and performance.

The data from the annual reports filed by all the accredited schools and colleges for the 1990, 1991, and 1992 school years were the basis for this report. The results contained in this report represent a summary of the major findings from a technical report prepared for the Commission. Those findings are presented in this report in a nontechnical manner.

The report was prepared by Dr. Morgan Lewis, Research Scientist, and Lois Harrington, Program Associate. Michael Mustaine performed the many computer runs necessary for the analysis.

Dr. Lewis has asked me to express his appreciation to those who contributed in many ways in the preparation of this report:

- First, to the Career College Association for funding the analyses and verification of the annual report data prior to the establishment of the Accrediting Commission as a separate entity, independent of the Association.
- Second, to the staff of the Accrediting Commission—particularly Thomas Kube, Bruce Jenks, and Patricia Barkeloo—who are responsible for the collection and processing of the annual report data upon which the report is based
- Third, to Dr. Kevin Hollenbeck of the Upjohn Institute for Employment Research, Kalamazoo, Michigan, and Dr. N. L. McCaslin of The Ohio State University, who reviewed the definitions of outcome measures developed for the technical report
- And, fourth, to the members of the Accrediting Commission themselves, who contributed many helpful suggestions and insights regarding definitions, analyses, and interpretations of the findings, while allowing Dr. Lewis full control over the final contents of this report

I should add that although the Career College Association and later the Accrediting Commission provided the funding for the preparation of this report, its findings and conclusions are those of Dr. Lewis and not necessarily those of the Association, the Accrediting Commission or our Center.

Ray D. Ryan
Executive Director
Center on Education and
Training for Employment

Executive Summary

This is a report of the performance of the schools and colleges that filed reports with the Accrediting Commission of Career Schools/Colleges of Technology* during the 1990, 1991, and 1992 school years. The report presents information on three outcomes of the schools—graduation rates, withdrawal rates, and training-related placement rates—calculated separately for full-time and part-time enrollments. Because of students who continue from one school year to another, withdrawal rates are not simply the reverse of graduation rates.

The most recent information on default rates on Stafford loans was used as an additional outcome measure. Default rate information lags 2 years behind the school years, but the rates tend to be consistent from year to year. That is, schools that had high rates in 198[illegible] so had high rates in 1989 and 1990, and vice versa.

Of the full-time students leaving the accredited schools, almost two-thirds (63% to 64%) graduated in each of the 3 years. Slightly more than one-fifth (21% to 22%) of the students enrolled each year withdrew without completing their programs. A consistent three-fourths of graduates found employment related to the skills they had studied. This figure is based on graduates who were available for employment. Each year 8% or 9% of graduates did not seek employment because they continued their education, entered the military, or had other documented reasons for not seeking jobs.

For part-time students, the graduation and training-related employment rates were 10 to 12 percentage points lower than the rates for full-time students. Withdrawal rates for part-time students were 1 to 2 percentage points higher than the rates for full-time students.

For the students who had left the schools 2 years prior to the school year analyzed, the default rates on Stafford loans fluctuated around 25%.

These outcomes were related to 25 measures of the characteristics of the schools, using multiple regression analysis. This analysis determines the unique relationship of each school characteristic with school outcomes, holding the effect of all the other characteristics constant. The school characteristics discussed in this report were found to have consistent, statistically significant relationships with school performance.

The report presents the results for full-time enrollments. The analysis of part-time enrollment yielded fewer systematic relationships with school characteristics, but those that were found were fully consistent with the full-time results.

---

* Formerly the Accrediting Commission for Trade and Technical Schools

Introduction

For the past 3 years, the Accrediting Commission of Career Schools/Colleges of Technology* has been examining the performance of the schools and colleges it certifies as meeting its standards. This report presents a summary of the results of this analysis, which is based on the annual reports filed with the Commission for the school years 1990, 1991, and 1992. The information in these reports is verified annually through on-site visits with a sample of the reporting schools.

The analysis focused on three outcomes, which were calculated separately for full-time and part-time students:

- Graduation rates
- Withdrawal rates
- Training-related placement rates

The analysis also examined the default rate on Stafford loans for students who had left these schools 2 years prior to the year of the annual report. The ways in which these rates were calculated are presented in the "Technical Notes" section.

A statistical technique known as *multiple regression analysis* was used to study the relationship between these outcomes and various school characteristics; e.g., total enrollment, type of campus (main or branch), accreditation (single or dual), availability of separate facilities, percentage of students receiving financial aid, average program length, and faculty turnover. By controlling all the characteristics for which we have measures, this technique estimates the unique relationship of each characteristic to school performance.

It is important to note that this analysis shows only relationships, not cause and effect. Similar rates of change in two measures may or may not reflect the effect of one of the measures on the other.

For example, if we were to correlate the shoe size of men with their height, we would find a significant relationship. Taller men tend to have larger feet than shorter men. This does not, however, mean that having large feet causes men to grow taller or that being tall causes men to have large feet. What causes both of these characteristics are the genetic components of individuals as these components interact with the nutrition available in the environment. Both shoe size and height are only reflections of basic causes. In a similar manner, many of the measures used in this analysis are only reflections of more basic relationships between school/student characteristics and school outcomes.

Those characteristics that were found to have consistent, significant relationships with the outcomes for full-time students are summarized in this report. There were fewer significant relationships for part-time enrollments, but the overall patterns were virtually identical to those found for the full-time results.

---

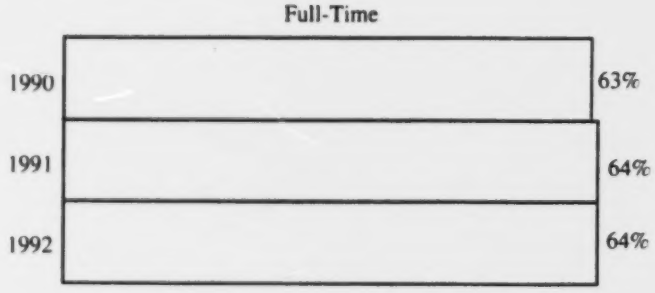
* Formerly the Accrediting Commission for Trade and Technical Schools

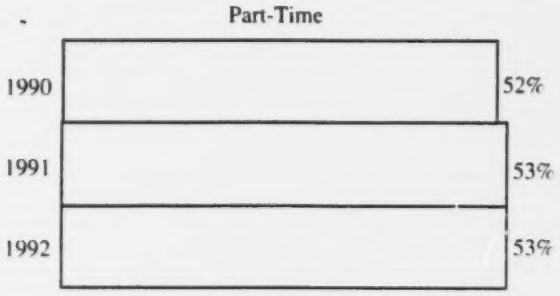
The performance of the accredited schools and colleges has been very consistent over the 3 years examined.

Graduation Rates

The number of students graduating each year is presented as a percentage of the total number of students leaving school, either through graduation or withdrawal. (The shading of the bars for the different rates is repeated throughout the report.)

For each of the 3 years, almost two-thirds of the full-time students graduated.

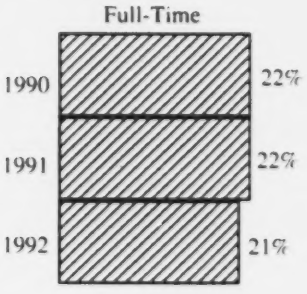




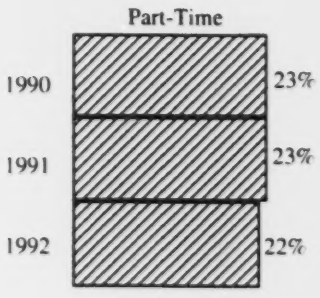
Among the part-time students, the graduation rate for each year was slightly more than one-half.

Withdrawal Rates

The number of students withdrawing is presented as a percentage of the total number of students enrolled.



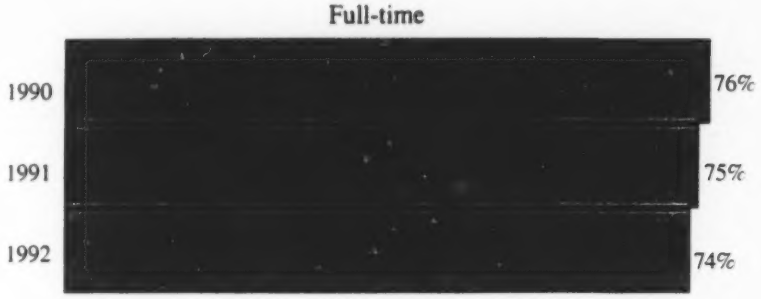
Withdrawal rates for each year were almost identical for both full- and part-time students.

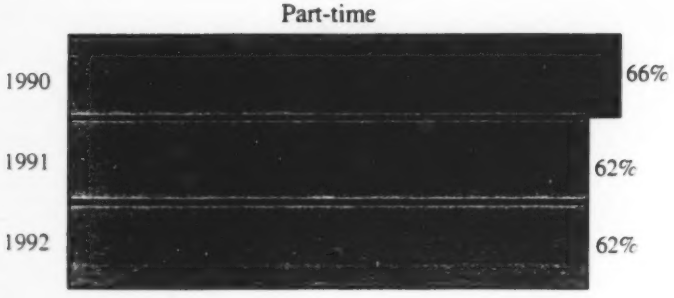


Training-Related Placement Rates

The number of graduates who obtained jobs related to the fields they had studied is presented as a percentage of the total number of graduates who sought employment.

Each year, three-quarters of the full-time students who graduated obtained related employment.



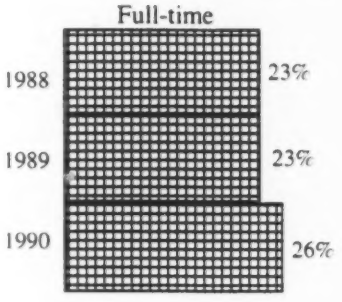


The corresponding rates for part-time students who graduated were 10 to 13 percentage points lower.

Default Rates

The default rate on Stafford loans was examined for those students who had left their schools and colleges 2 years prior to the years being analyzed. Stafford loans are guaranteed by the federal government and are available to all students who need them. These loans are not limited to students from disadvantaged circumstances.

Default rates tended to be fairly consistent across the 3 years examined. Schools that had high rates in one year tended to have high rates in other years. Those with low rates in one year tended to have low rates in other years.



Characteristics Related to Graduation

The figures that follow present the school characteristics that were related to graduation rates for a least 2 of the 3 years examined. The length of each bar reflects the size of the characteristic's effects on graduation rates. Years in which a school characteristic did not have a significant effect on an outcome are indicated by the letters *NS* (not significant).

The measures of school characteristics are of two kinds: categorical and continuous.

- *Categorical variables* reflect either-or conditions. A school is either a main campus or a branch campus. A school is either accredited by an agency in addition to the Accrediting Commission or it is not. Categorical variables are interpreted in comparison to the opposite condition.
- *Continuous variables* can have many values. Most of the continuous variables in the figures throughout the rest of this report reflect the percentage of students with certain characteristics (e.g., those receiving different types of financial aid). These percentages are based on the total enrollment of the individual schools. Continuous variables are interpreted as the rate of change in the outcome measure for each unit change in the measure of a school characteristic. The bars for the continuous variables for all subsequent figures in this report show how much the outcomes change when the school characteristics change 10 units.

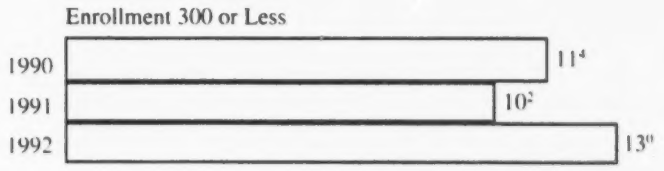
In these charts, a unit change is typically a change of 1 percentage point; for example, an increase of 1 point in the percentage of students receiving Pell grants, or an increase of 1 point in the faculty turnover rate. The effects of these unit changes on the outcome variables are always less than 1 full percentage point. The presentations in the charts show the effects of 10-unit changes in the school characteristic variables on the outcome variables.

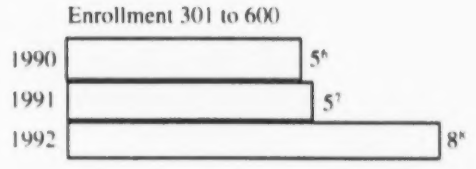
Total Enrollment Categories

The enrollment groupings shown in the following figures are categorical variables of a special sort. They are interpreted in comparison to schools in the largest enrollment group: 901 or more students.

For all 3 years, schools with enrollments of 300-or-less and 301-600 consistently had higher graduation rates than did schools with enrollments of 901 or more.

The figures on the right indicate "percentage points higher." For example, in 1990 schools with enrollments of 300 or less had graduation rates 11.4 percentage points higher than those of schools with enrollments of 901 or more.

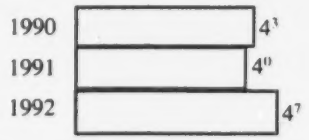




It bears repeating that these estimates of the effects of enrollment size are independent of the other variables that influence graduation rates. In 1992 when the effect of other school characteristics (e.g., percentage of Pell recipients and average program length) were controlled, schools with enrollments of 300 or less had graduation rates 13 percentage points higher than did schools with enrollments of 901 or more.

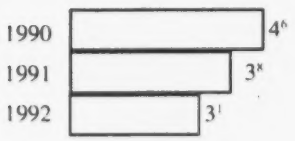
Main or Branch Campus

The bars in the figure indicate that for all 3 school years, ***main campuses*** had graduation rates approximately 4 percentage points higher than those of branch campuses.



These findings suggest that facilities, equipment, and instruction are likely to be better at a main campus than at a branch campus. The results may also reflect a maturation factor: main campuses are likely to be older, with established operating procedures. It may be that this maturity results in better graduation rates for main campuses, particularly if it has led to good linkages with employers.

Dual Accreditation



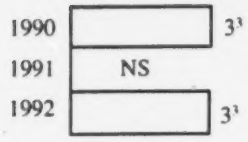
In each of the 3 years, about one-sixth of the schools reported that they had, or were candidates for, accreditation in addition to that from the Commission. Schools with dual accreditation had graduation rates about 3.0 to 4.5 percentage points higher than those without dual accreditation.

There is some speculation that schools with more than one accreditation may be *accreditation shopping*—seeking backup in case accreditation from one agency is lost. If this were the motivation for dual accreditation, one would expect to find it among the poorer-performing schools. The results in the above figure suggest just the opposite—that it is the better schools that seek dual accreditation.

Separate Facilities

Some reporting schools have separate buildings, classrooms, or laboratories. For example, an aviation mechanics school might have a separate facility at an airport in addition to its regular

classroom building. This is a different variable than whether the school is a main or branch campus. Separate facilities may reflect an enriched instructional setting.

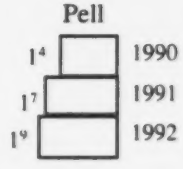


About one in six schools reported having such facilities. Those schools had graduation rates that were higher by more than 3 percentage points than schools that did not have such facilities. The characteristic was not significant (NS) in 1991.

Percentage of Students Receiving Financial Aid

The financial aid variables indicate the percentage of enrollment in a school receiving the aid indicated. The percentages range from 0-100. Across all schools, over half of all students received Pell grants and Stafford loans during the past 3 years, and about one-fifth received Supplemental Loans to Students (SLS). The percentage receiving Stafford and SLS has been dropping slightly, while the percentage receiving Pell has been increasing.

The bars in the figure indicate that for a 10-point increase in the percentage of enrollment receiving Pell grants, the percentage of enrollment that graduated decreased about 1.5 to 2.0 percentage points.



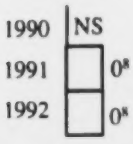
To think of the meaning of these results in another way, imagine two schools which are exactly average on all the characteristics examined in this analysis and which differ only in the percentage of students that receive Pell grants. In one school, no one receives a Pell grant. In another school, everyone does. In 1992, the graduation rates for full-time students in these schools would be—

- No Pell grants 73%
- 100% Pell grants 54%

The results for the Pell variable do *not* mean that receiving Pell grants makes it less likely that students will graduate. Pell grants are given only to students whose income or whose family's income is below the poverty level, as defined by the federal government. A school with a high percentage of Pell recipients is a school with a high percentage of students whose families are functioning below the poverty level. Students from such families are traditionally the most difficult to serve in educational settings.

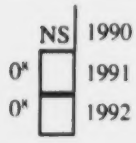
What the Pell variable does reflect is that as the percentage of students living in poverty increases, graduation rates decrease. It is of interest, however, that the Pell variable does not have a significant effect on default rates. This will be discussed more fully in connection with the "Ability to Benefit" variable.

Stafford



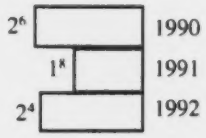
Neither of these two other measures was significant in 1990, but both were significant in the next 2 years, at the same level of effect, but in opposite directions. As the percentage of students receiving Stafford loans increased 10 points, graduation rates increased at a rate slightly less than 1 percentage point. As the percentage of students receiving SLS increased, graduation rates decreased.

SLS



Average Program Length in Weeks

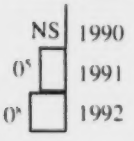
When other characteristics are held constant, schools with shorter programs (measured in weeks) have higher graduation rates than schools with longer programs. For every 10-week increase in program length, graduation rates decreased by about 2.0 to 2.5 percentage points.



Faculty Turnover

Several questions were asked about staffing in schools. Separate measures were created for full- and part-time staff. *Turnover* was defined as "the number of instructors that left, divided by the total number employed during the school year." Turnover among part-time faculty was the only one of these measures to show a consistent relationship with graduation rates.

Part-time Turnover



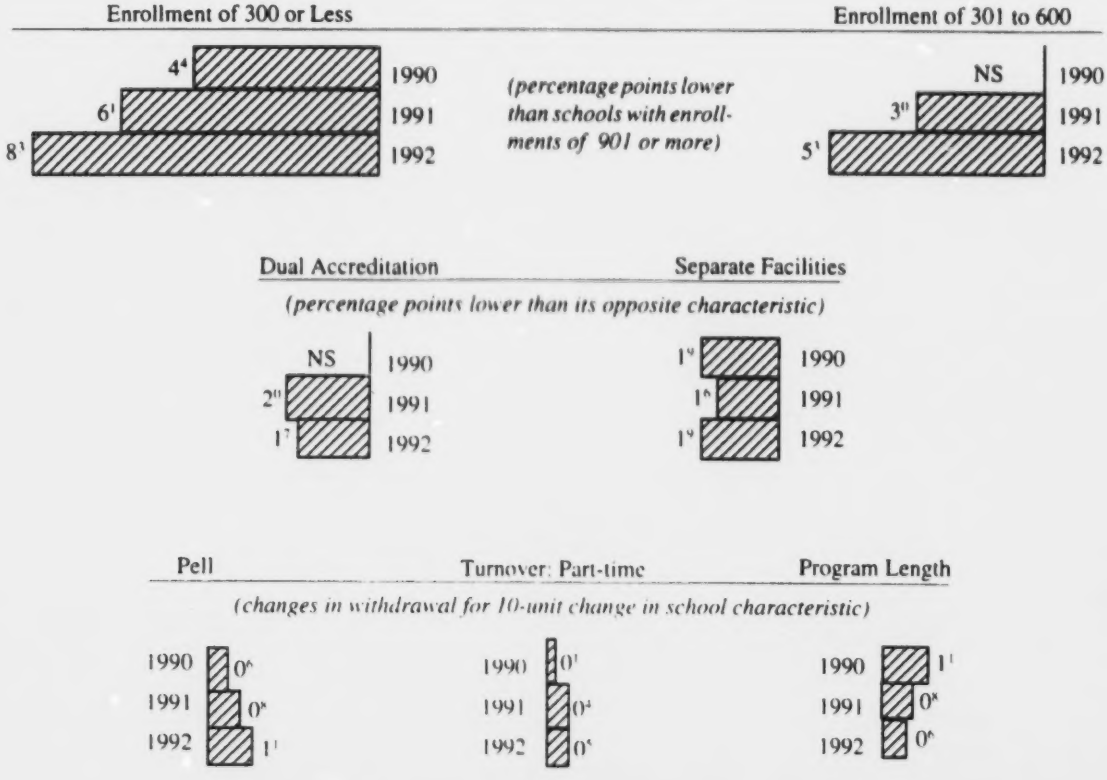
As turnover rates for part-time faculty increased 10 points, graduation rates decreased less than 1 full percentage point. The size of the effect is not large, but as discussed in the next section in connection with withdrawal rates, a few departures can have a large effect on turnover rates.

Characteristics Related to Withdrawal

When students enroll during a given school year, they do not all graduate or withdraw during that school year. In each of the 3 years for which we have data, about 40% to 45% of both full- and part-time students neither graduated nor withdrew.

Thus, it was necessary to establish a definition of *graduation* that did not penalize schools for these "continuing students." The definition adopted was "the number of students graduating, divided by the total number graduating and withdrawing." *Withdrawal* was defined as "the number of students withdrawing, divided by the number enrolled during a school year." Because of these differing definitions, withdrawal is not simply the reverse of graduation.

Many of the variables that influence graduation also influence withdrawal, but they are not identical. The following school characteristics had consistent significant influence on both graduation and withdrawal rates: enrollments of 300-or-less and 301-600, dual accreditation, separate facilities, percentage of students receiving Pell grants, turnover among part-time faculty, and program length in weeks.



For all these characteristics, their relationships with withdrawal were the reverse and about half the magnitude of their relationships with graduation. The lower effect upon withdrawal is partially due to the restricted range of the withdrawal variable; the average withdrawal rate is one-third the size of the average graduation rate.

Three characteristics, which did *not* have a consistent influence on graduation, did have such an effect on withdrawal:

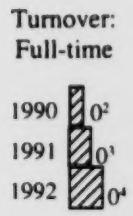
- Turnover among full-time faculty (the effect of which was parallel to that of turnover among part-time faculty)
- Percentage of enrollment classified as "Ability to Benefit"
- Default rate

Faculty Turnover

Faculty turnover, particularly among part-time faculty, is associated with lower graduation rates and higher withdrawal rates. The magnitude of the effect is not as large as that of many of the other school characteristics. Because most schools do not have a large number of instructors, however, the addition or departure of a few can have a large impact on the turnover rate.

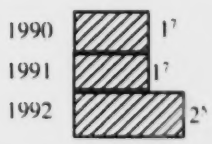
For the 3 years presented in this report, the average number of full-time-equivalent instructors was slightly more than 15, and the turnover rate among both full- and part-time instructors was about 20%. This means that in an *average* school with 15 instructors, a total of 3 instructors departed each year. The departure of 2-3 additional staff members in a single year would have a marked impact on turnover rate. The departure of 2 more (a total of 5) would bring the rate up to 33%; the departure of 3 more (a total of 6) would yield a rate of 40%.

Some turnover is inevitable, but high rates seem to be reflective of poor program quality (the figure shows increase in withdrawal rate for 10-unit increase in full-time faculty turnover). Schools that must continually replace their faculty are not likely to be schools that are directing much of their effort into improving the relevancy and quality of their programs. Further, it appears that turnover among part-time faculty is a more sensitive indicator of poor school performance than is turnover among full-time staff.



Ability to Benefit

The percentage of enrollment classified as Ability to Benefit (ATB) was one of the most interesting school characteristics examined in this analysis. The main effect of the ATB variable, to be discussed later, was found for default rate.



As shown in the figure, for every 10-point increase in the percentage of ATB students, withdrawal rates increased by 1.7 to 2.5 percentage points.

Default Rate

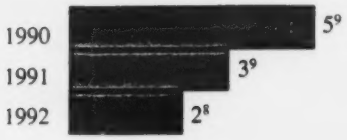
The percentage of students who default on their Stafford loans obviously cannot be a cause of withdrawal. Default occurs after withdrawal. It is included as an explanatory variable because we thought it might reflect certain characteristics of schools not captured by the other variables in our analysis. And for withdrawal rates, it did. Default rate had a consistent relationship with withdrawal independent of all the other school characteristics examined.

The accuracy of the default rates published by the U.S. Department of Education has been questioned, and many schools accredited by the Commission have challenged their published rates and had them revised. In our analyses, however, we found the percentage of former students who default to be a fairly stable characteristic of a school. Default rates for the 3 most recent years for which we had data were intercorrelated, and substantial coefficients were found. The rates for 1988 correlated .72 with the rates for 1989 and .63 with the rates for 1990. The rates for 1989 correlated .84 with the rates for 1990.

(increase in withdrawal rate for 10-point increase in default rate)

Characteristics Related to Training-Related Placement

The economic benefits of studying occupational skills accrue primarily to graduates who obtain employment in jobs requiring the skills they learned in their programs. We have labeled the variable that measures the percentage of graduates who obtain such jobs, Training Related Placement (TRP). Over the 3 school years analyzed, three-fourths of the graduates available for employment found jobs in related fields. Unfortunately, TRP is the outcome with the fewest consistent relationships with school characteristics; however, the following relationships do exist.



Programs that were offered on ***main campuses*** had higher rates of TRP than did programs offered on branch campuses. (Figure shows the percentage points higher.)

Programs at ***schools with dual accreditation*** had higher rates of TRP than did programs at schools without dual accreditation. (Figure shows the percentage points higher. The characteristic was not signficant in 1991.)

These characteristics thus reflect the same type of association as they had with graduation rates, and we suspect they are indicators of higher-quality programs.

We have no explanation of why the ***percentage of students receiving Stafford loans*** should be associated with TRP. (Figure shows change in training-related placement rate for 10-percentage point increase in this school characteristic. The characteristic was not signficant in 1992.)

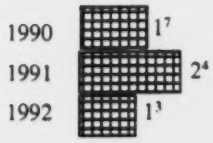
Characteristics Related to Default

Probably more public attention is directed to default rates than to any of the other variables examined in this report. The existence of a time delay in the publication of default rates complicates analysis of this variable. Students must leave school and the grace period for repayment must pass before data can be collected. Consequently, our analysis always deals with rates based on students who left their schools and colleges at least 2 years prior to the period covered by the annual reports from these institutions.

As indicated earlier, however, default rates tended to be fairly stable across the 3 years analyzed. For school year 1990, we were able to match school reports and default rates. The results from the matched data were highly similar to the time-lagged results.

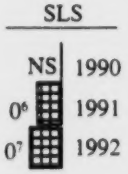
The school characteristics found to be associated with default rates are average program length, withdrawal rate, percentage of GED enrollment, percentage of enrollment receiving supplemental

The ***average program length*** (in weeks) is associated with default rates, just as it was with graduation and withdrawal. However, these regression coefficients are negative, which means that as program length increases, default rates decrease. It seems reasonable to expect that students who graduate from longer programs should earn higher wages and be in a better position to repay their loans.



We reported earlier that default rates have an independent relationship with ***withdrawal rates.*** The reverse is also true. Even when other characteristics are held constant, schools with high withdrawal rates have high default rates.

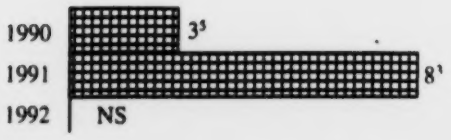
(All figures in this section show change in defaujlt rate for 10-unit change in school characteristic. NS = characteristic not significant during this school year.)



Change in Ownership

Many of the school characteristics thought likely to be associated with poorer school performance (e.g., legal action pending, complaints under review) were not statistically significant or were significant in only 1 of the 3 years. Change in ownership was the only characteristic of this type to be significantly related to an outcome.

The relationship was significant in only 2 of the 3 years; it was not significant (NS) in 1992. In both 1990 and 1991, schools with changes in ownership had higher default rates than did schools that did not change ownership. (Figure shows percentage points higher.)

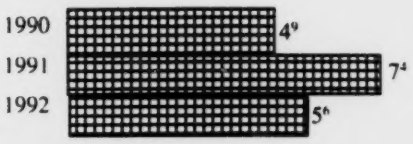


Again, it is important to keep in mind that the most recent default data are for the school year 2 years prior to the year of the annual report. What this analysis may be showing is a tendency for owners who know that substantial numbers of their former students are experiencing default problems to sell their schools before the reports on these students are actually compiled and released.

The reason why variables reflecting undesirable conditions are not consistently related to outcomes is, we think, that few schools report such conditions. Typically, less than 10% of schools report legal action pending, and less than 5% report complaints under review or changes in ownership. When the few schools reporting such conditions have very high or very low outcome measures, this can have a distorting effect on the analysis. Consequently, in our discussion we have emphasized those variables that have yielded consistent results over the 3 school years.

Ability to Benefit

We noted earlier that the Ability to Benefit (ATB) variable had its strongest relationship with default rates.



In the 3 school years, default increased at the rate of half a percentage point or more for every 1-point increase in the percentage of ATB students enrolled at a school. (Figure shows increase in default rate for 10-point increase in percentage of ATB.)

These results were obtained when a special variable was entered into the analysis. The relationship between ATB and default is not a simple one. The line that best describes the relationship is curved, not straight. The middle of the curve explains most of the relationship: as the percentage of ATB students in a school increases, so do the default rates for that school. At the two ends of the curve, however, these relationships are reversed: low rates of ATB are associated with high default, and high rates of ATB are associated with low default.

A possible explanation for these unexpected components of the relationship may lie in the experience of schools in working with ATB students. Schools with high percentages of ATB students may provide more supportive services that tend to counteract the increased tendency of ATB students to default. This explanation would not, however, hold for the other end of the curve (low ATB and high default). Our examination of the ATB–default data leads us to believe that this latter end of the curve is being heavily influenced by only a few schools with very low percentages of ATB and very high default rates.

These intriguing aspects of the curved ATB–default relationship should not divert attention from the straight-line component, which explains a large proportion of the differences in default rates across schools. In our judgment, the explanation for this relationship lies in student characteristics associated with dropping out of high school. Students who drop out are indicating their unwillingness to adapt to a structured educational setting. It is these students who are being admitted as ATB.

Such students have the mental ability to succeed, as measured by the test that classifies them as ATB. Sometimes, however, they do not have the personal qualities that enable them to benefit from classroom instruction. They give school another try, but if they encounter the same factors that caused them to drop out of high school, many withdraw from the program. Feeling they have gained nothing from their experience, such former students are more likely to default on their loans.

Having said this, the question arises as to why the percentage-of-Pell-recipients variable does not also have a similar relationship with default, when it strongly depresses graduation and increases withdrawal.

Our hunch is that the ATB variable is a better indicator of alienation from the mainstream institutions of our society, and it seems likely that such alienation would be associated with a tendency to default on loans. Even though the Pell variable indicates the percentage of students from a poverty background, it is not associated with the percentage of high school graduates at a school. ATB, in contrast, has a high negative correlation with the percentage of high school graduates. If dropping out of high school reflects alienation and if alienation is associated with a tendency to default, the ATB variable appears to reflect this tendency.

The school characteristics that appear to be the best indicators of higher-quality school programs—dual accreditation, main campus, low turnover rates among faculty, and separate facilities—are not associated with default. This appears to be consistent with other studies that have concluded that it is the characteristics of individuals, not the institutions they attended, that influence whether or not loans go into default.

Comparisons with Similar Programs

The findings for the schools and colleges reporting to the Accrediting Commission are consistent with other studies of the outcomes of many different educational systems. Student characteristics had a strong influence on the performance of these schools; however, they are not the sole influence. In the 3 years of data analyzed, we found certain school characteristics to have a significant effect on outcomes each year.

According to the definitions of *graduation* and *withdrawal* used in this report, almost two-thirds (63% to 64%) of the students leaving school graduated, and a little more than one-fifth (21% to 22%) of the total enrollment withdrew. We could not locate any results from other postsecondary institutions that defined graduation and withdrawal rates in the same way they were defined for this report. The results we did find were generally based on a specific group of students (a *cohort*) that was followed for a specified period. The percentages of students that completed or withdrew from those programs were calculated based on the number that started the programs. The Accrediting Commission has adopted a similar definition for its future annual reports.

The graduation and withdrawal rates for the schools and colleges presented in this report are better than those reported using the cohort definition. Data from the *High School and Beyond* longitudinal survey estimated dropout rates from community colleges (vocational and academic), public vocational-technical schools, and proprietary schools in the range of 42% to 51%. The rates for continuing students ranged from 9% to 14%. (The sources for the data presented in this section are presented in the "Technical Notes" section.)

There are many differences, in addition to the way graduation and withdrawal are defined, between the data used for the present report and that from the *High School and Beyond* study:

- The *High School and Beyond* longitudinal data are based on a national survey of the high school class of 1980, all of whom were seniors and most of whom graduated. The postsecondary results are based on the status of these former students 4 years after leaving high school—a period of high educational and job mobility for young people.
- The annual report data are based on students with much more varied educational backgrounds, ranging from a substantial proportion (approximately one-sixth) of Ability to Benefit (ATB) students, to a slightly higher proportion of students who have had some postsecondary education before enrolling in schools accredited by the Commission.

Some of these differences would be to the disadvantage of the accredited schools—they enroll proportionally more high school dropouts, members of minority groups, and students from disadvantaged backgrounds. Although direct comparisons are not possible, the available data suggest that schools accredited by the Commission may be graduating more of their students than do similar public institutions and nonaccredited private schools.

Comparisons on training-related placement (TRP) are not as plagued by problems of definition. Most institutions that provide occupational preparation define *TRP* as "the number of program completers who obtain related employment, divided by the number of completers available for employment." Over the 3 years examined in this report, the number excluded from this calculation—the number unavailable for employment—has been a consistent 8% to 9%. This percentage has been about evenly divided between those continuing their education and those with other documented reasons for not seeking employment, such as health problems or a need to care for

children or other family members. Each year less than 1 percent were unavailable because they entered military service.

In each of the 3 years, three-fourths of the graduates of accredited schools who were available for employment were reported to have obtained jobs related to the skills they had studied. To locate comparison results, we sought to identify all follow-up studies of postsecondary students entered into the literature between 1987 and 1992. We were unable to identify any national studies that had examined TRP, but we did find five state studies that examined the related employment of graduates of public vocational-technical institutions. In these studies, the rates for students who had completed their programs in the mid-1980s ranged from 82% to 96%.

On this measure, the schools accredited by the Commission appear to be doing slightly worse than similar public institutions. If, however, more of the students of accredited schools actually complete their programs, and if these completers include larger proportions of high school dropouts, minorities, and economically disadvantaged, then these slightly lower rates are certainly understandable.

Definition of Outcome Measures

The data for this report came from annual reports that are submitted to the Accrediting Commission on a school-year basis, defined as July 1 through June 30. The numbers reported in the various categories—new enrollments, continuing students, re-entries, graduation, and withdrawals—are the totals for the year. Information that traces a defined group of students from initial entry until exit, either through graduation or permanent withdrawal, is not available from these reports. The Commission has moved toward such a definition.

Graduation Rates

Defining *graduation* as "the number graduating, divided by the number enrolled" seriously underestimates graduation rates, primarily because many of the programs take 2 years to complete. The definition of *graduation* that was used is "the number graduating, divided by the total number graduating and withdrawing." This definition simply disregards the problem of "continuing students" for the current year. Some of these students will graduate, and some will withdraw in the next school year and will be included in the rate when they do so.

Withdrawal Rates

Withdrawal rates present less of an analytic problem: a withdrawal is a withdrawal regardless of when it occurs. Withdrawal rates were calculated by dividing the total number of students withdrawing during a school year by the total number enrolled during that school year. This definition, however, like that for graduation, is not based on a defined group of entering students. When the new definition for graduation rates is implemented, the definition of withdrawal will also be based on a defined group of entering students.

Because of "continuing students" and the definition of graduation rates adopted to allow for them, withdrawal rates are not simply the reverse of graduation rates. Since continuing students are not included in the calculation of graduation rates, the graduation and withdrawal rates do not total 100%. In each school year analyzed, about 40% to 45% of full- and part-time students neither graduate nor withdraw. Instead, they start during one school year and continue their studies into the next year. Consequently, not all variables found to have a significant relationship with graduation have a similar reverse relationship with withdrawal.

Training-Related Placement

Training-related placement (TRP) is a critical measure of the performance of schools and colleges whose primary mission is to teach specific occupational skills. We conducted some analyses using the definition of TRP approved by the U.S. Department of Education. This definition allows students who withdraw for related employment to be included in both the numerator and denominator of the rate calculation. This appeared to us to be potentially biasing the rate in a positive direction, so we calculated a separate rate that excluded those who withdrew from both the numerator and denominator.

The two rates differed very little. Entering the number who withdrew for related employment in both the numerator and denominator increased the TRP by only 1 percentage point. In the analysis presented in this report, therefore, we used the rate that included only those who graduated and were available for employment, which appeared to us to be less vulnerable to criticism that the calculation was biased in a positive direction.

To calculate TRP, we adjusted the number graduating by eliminating those who were unavailable for employment because they were continuing their education, entering the military, or had other documented reasons for not seeking employment, such as illness or pregnancy. The number excluded for these reasons had been consistent over the 3 years, averaging 8% to 9% of the total number of graduates.

Default Rate

The default rates for the 1990 and 1991 analyses were obtained from reports prepared by the U.S. Department of Education. These reports present the default rates for schools with 30 or more former students in default for the fiscal years that ended 2 years prior to the year in which the reports were issued. In 1992, the default rates were obtained from the annual report forms filed by the schools, but these rates also were, as reported by the U.S.Department of Education, for the fiscal years 2 years prior.

Calculation of Effects of Pell on Graduation

For the school with no Pell grants, the calculation is as follows: "mean graduation rate" + "partial regression coefficient" x "mean percentage receiving a Pell grant" - 100.

$$64.2 + [-.19(55.3 - 100)] = 72.7.$$

For the school with 100% Pell grants, the calculation is the same, but zero is subtracted from the mean percentage of those receiving a Pell grant.

Sources for Comparison Statistics

Default as mainly due to individual characteristics:

Knapp, L. G., & Seaks, T. G. (1992). An analysis of the probability of default on federally guaranteed student loans. *Review of Economics and Statistics, 74,* 404-411.

Importance of training-related placement:

Bishop, J. (1989). Occupational training in high school: When does it pay off? *Economics of Education Review, 8* (1), 1-15.

Dropout statistics in postsecondary institutions:

Grubb, W. N. (1993). The long-run effects of proprietary schools on wages and earnings: Implications for federal policy. *Educational Evaluation and Policy Analysis, 15* (1),17-33.

Characteristics of students in proprietary schools:

Byce., C., & Schmitt, C. M. (1992). *Students at less-than-4-year institutions* (NCES 92-206). Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.

Training-related placement rates in public postsecondary institutions:

Illinois Community College Board. (1987). *Follow-up study of students who completed community college occupational programs during fiscal years 1983-85.* Springfield, IL: Author.

New Hampshire State Department of Postsecondary Vocational-Technical Education. (1988). *Graduate placement report annual summary, 1987.* Concord, NH: Author.

Ohio Board of Regents. (1988). *Technical education placement report, fiscal year 1987.* Columbus, OH: Author.

Wisconsin State Board of Vocational, Technical, and Adult Education. (1988). *1987-88 graduate follow-up report.* Madison, WI: Author.

Washington State Board for Community Colleges. (1990). *Vocational outcomes in Washington community colleges.* Baseline report (Operational report No. 90-2). Olympia, WA: Author.